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TABLE OF CONTENTS

AN OUTBREAK OF FISH POISONING

Richard K. C. Lee, M.D., and H. Q. Pang, M.C. 129

A DOCTOR LOOKS AT AUTOMOBILE ACCIDENTS

William John Holmes, M.D. 133

THE USE OF THE WELTMANN REACTION IN MYOCARDIAL INFARCTION

Alfred S. Hartwell, M.C. 136

EDITORIALS

PHYSICAL FITNESS TO DRIVE A CAR 139

LET'S ELIMINATE TUBERCULOSIS AND SYPHILIS

C. L. Wilbar, Jr., M.D. 139

COMBINED DIPHTHERIA-TETANUS TOXOID 140

DR. JOHN BURDEN HONORED 140

PATHOLOGISTS' MEETING 140

DERMATOLOGISTS' MEETING 140

CLINICAL NOTES

SURVEY OF BOOTBLACKING ACTIVITIES IN HONOLULU AND WAHIAWA

Frederick A. Schramm 141

NEUROPSYCHIATRIC COMMENT

THE FUNCTION OF THE PSYCHIATRIC SOCIAL WORKER IN A GENERAL HOSPITAL 143

Mildred Sikkema 143

COUNTY SOCIETY REPORTS 145

U. S. ARMY SIGNAL CORPS PHOTOGRAPHS 146

LIBRARY NOTES 147

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Preoperative Calm

ALTHOUGH many of the derivatives of barbituric acid have a generic resemblance in their principal action, there are significant differences which establish certain compounds in special clinical fields. For example, 'Sodium Amytal' (Sodium Iso-amyl Ethyl Barbiturate, Lilly), while frequently prescribed for insomnia, has been found particularly useful as a preanesthetic hypnotic. Given preoperatively it serves to allay fear and apprehension, improves the patient's mental attitude, thus facilitating surgical procedure. 'Sodium Amytal' is also widely employed in obstetrics. In recommended dosage it is capable of producing amnesia without prolonging dilatation of the cervix or interfering with the strength or frequency of uterine contractions.

ELI LILLY AND COMPANY
Indianapolis 6, Indiana, U.S.A.

An Outbreak of Fish Poisoning in Honolulu, Hawaii

RICHARD K. C. LEE, M.D., AND H. Q. PANG, M.D.

Honolulu

Poisoning of man by fish may occur in two ways: (1) as a form of food poisoning either by a toxin arising from decomposition or by toxins present in the living fish, and (2) by inoculation of toxins through wounds inflicted by the fish.

David Starr Jordan[1], in the chapter on Adaptations of Fishes from his textbook, "A Guide to the Study of Fishes," states that in certain groups of fishes a strange form of self-protection is acquired by the presence in the body of poisonous alkaloids, by means of which the enemies of the species are destroyed in the globefishes or puffers, the filefishes and in some related forms. The alkaloids produce a disease known as Ciguatera (a term popularly used for fish poisoning in the West Indies) characterized by paralysis and gastric derangements. Severe cases of Ciguatera in humans, as well as in lower animals, may end fatally in a short time.

He describes how, in certain groups of fishes in the tropics, individual fishes are sometimes rendered poisonous by feeding on poisonous mussels, holothurians or possibly polyps, specimens which at certain times and especially in the spawning season develop alkaloids which may cause Ciguatera in man. The true cases of Ciguatera are produced by the specific poisonous alkaloids, most highly developed in the globefishes or puffers. These alkaloids are most developed in the ovaries and testes and in the spawning season. They are also found in the liver and sometimes elsewhere in the body of the fish.

The illness produced by these alkaloids must be differentiated from that produced by the leucomaines and the so-called ptomaines in decaying flesh or in the oil diffused through it. Poisonous bacteria may be destroyed by cooking but the alkaloids which cause Ciguatera are unaltered by heat.

The report is concerned with an acute and limited outbreak of fish poisoning due to the presence of inherent toxins in the living fish involving 24 known cases following the eating of black sea bass brought in from Midway. We believe that the poisoning in these reported cases was due to a toxin present in the flesh of the fish consumed. From the available information and evidence, this fish was brought in to Honolulu under satisfactory refrigeration conditions and all persons consuming them reported on the apparent visible and olfactory freshness of the fish. In Hawaii Dr. Nils P. Larsen[2] in 1939 reported three cases of tetrodon poisoning following the eating of the puffer or balloon fish. The toxin present in the sea bass is probably an alkaloid less toxic than that of the puffer fish. The clinical signs and symptoms of these two types of fish poisoning are characteristic and distinctive.

EPIDEMIOLOGY

On November 27, 1944, one of us (H.Q.P.) reported to the health department that he had treated individuals for an illness that was characterized by vomiting, diarrhea, severe aches and pains in the extremities and the feeling of numbness and tingling of the hands and feet, which followed the eating of fish brought in from Midway. Investigation revealed two dozen cases all giving a similar history of being given fish brought by a friend who had come from Midway.

A catch of black sea bass, red snapper and mahimahi* was brought in to Honolulu Wednesday evening, November 22, 1944, and distributed to friends. In most instances the fish was cleaned and kept under refrigeration until November 27, because of the "Thanksgiving turkey." On Monday, November 27, the person who brought in the fish, although having been warned by his friends that the fish he had brought back from Midway made them ill, went ahead and fed it to a gathering of eight people, all of whom suffered from an attack of fish poisoning within four to six hours. He and his wife felt that the portions of the fish he had brought back looked and smelled so fresh that he was sure they were not poisonous.

A sample of the fish was brought in to the Board of Health laboratory and from the general appearance, the bass did look "fresh." Bacteriological examinations did not reveal any organisms on culture or direct smears.

All patients who ate the fish identified the causal agent as the black sea bass. Jordan and Tinker[3] classify this fish in the Sea Bass or Grouper family (which includes the sea perch, tattlers and barbers) and technically in the species called "Epinephelus." Tinker[3] describes this species as the family of the sea bass in a larger family of carnivorous marine fishes. There are more than 400 known species in this family. The Hawaiians know it as the "Hapapuu"; the Chinese as "Shakpan"; and the Japanese as "Ara." One of the patients who had been stationed at Palmyra said that the navy department, during the period he was there, had signs out warning the personnel about eating fish caught in the lagoons during certain months of the year. The red snapper was implicated.

* Dolphin.—Ed.

Dr. Peter Buck of the Bishop Museum informed one of us (R.K.C.L.) that in his classes to the service personnel assigned to the areas in the South Seas, he warns the men that the natives should be questioned about the possibilities of "poisonous fishes" in those areas. In the *Honolulu Star-Bulletin* on July 12, 1944, a news item indicated that Sergeant L. O. Shermer of the Altadena substation had been given leave of absence to catalog poisonous fishes for the foreign economic administration. The navy handbook mentions only three poisonous fishes but Sgt. Shermer states that there are literally hundreds of fishes containing a poisonous alkaloid so deadly that only one mouthful might be fatal.

REPORT OF CASES

The following are case histories of patients as reported and seen by one of us (H.Q.P.):

CASE 1. G. K., a white male, age 50, ate some black sea bass at 7:30 P.M. on November 26, 1944 and at 12:30 the next morning began having diarrhea which was accompanied by slight abdominal pains. Stools were liquid and yellow in color but later were bile stained. He had about ten to twelve bowel movements at ten- to fifteen-minute intervals. There was no nausea or vomiting. At 2 A.M. his lips began to feel numb, followed in about fifteen minutes by numbness on both sides of his face and then both hands. At the same time he began having aching pains in both thighs and knees not accompanied by any rigidity. There was no pain below the knees. Pain increased in intensity till 8:00 A.M. and codeine had to be administered for relief.

He also noticed a peculiar burning sensation in his lips and mouth while drinking a glass of water. A cold object or a glass of tap water at room temperature felt like "dry ice" in his palms. This sensation was present in the plantar surfaces of his feet and he found it difficult to walk barefooted because of this peculiar feeling. The dorsal surfaces of his hands felt normal. Chest, heart and abdomen were normal. Knee jerks were present.

Two days later he began having pruritus of both palms and soles but there was no visible rash. His testicles felt big and heavy although there were no visible or palpable signs of enlargement or edema. He had to force himself in urinating, as urine did not seem to flow freely.

He was hospitalized on November 29, 1944 because of pains, irritability and insomnia. Urine revealed a slight trace of albumin. Blood count showed 85 per cent hemoglobin, 4,800,000 red blood cells, 8,500 white blood cells, 76 per cent polys, 19 per cent small lymphocytes, and 5 per cent large lymphocytes. One hundred mg. of thiamin chloride intravenously was administered daily without any relief of pain or paresthesia.

Codeine by mouth gave temporary relief and had to be repeated. He was discharged from the hospital on December 5th, still complaining of paresthesia in his palms and soles, but free from pain.

CASE 2. Mrs. E. W., Chinese female, age 34, attended the same party as Case 1 and ate the same type of fish. Diarrhea began at 12:30 A.M. on November 27, 1944 but she was free from abdominal pains or colic. She had three liquid stools at five-minute intervals. Her lips and face began to feel numb, which she described as "a feeling I get after novocaine injection for tooth extraction." Her thighs and legs began to ache with increasing intensity and her back felt as if she was being tied in a knot. Pruritus of the palms and soles began on November 29, 1944. She also complained about the same "dry ice sensation" in her lips, mouth and hands as in Case 1.

Physical examination was essentially negative. The urine showed a slight trace of albumin. Calcium gluconate, 10 cc. of 10 per cent solution, was given intravenously, with almost immediate relief of pain, although muscular tenderness and paresthesia remained. Relief was only temporary, however. She received four daily injections of calcium gluconate. One week later muscular aches and pains were completely relieved with the exception of a slight residual backache. The "dry ice" sensation persisted for ten days.

CASE 3. R. L., Chinese male, age 28, ate some black sea bass at 6 P.M., November 24, 1944. He began having vomiting and diarrhea with only slight abdominal pains at 10:30 P.M. the same day. The next day he felt weak and began having sharp, shooting pains in his hands, arms, legs and feet. He described pain as alternating, first in one leg and then the other. He began complaining of pruritus on November 27, 1944, which lasted till December 3, 1944. Pruritus was localized to the abdomen, the legs below the knees, and the feet and hands. He also had the same peculiar feeling in his hands and mouth as in Cases 1 and 2. His description of drinking a glass of tap water was vivid, "I couldn't swallow a glass of cold water fast enough because it burnt my mouth." This abnormal sensation was not felt in the esophagus or stomach.

CASE 4. Mrs. R. L., Chinese female, age 24, wife of Case 3, ate same fish at the same time. Her diarrhea was more severe than in Case 3 but subsequent symptoms were almost the same.

CASES 5, 6, AND 7. Mr. and Mrs. F. A. and daughter, Miss E. A., Chinese, ate some black sea bass on November 25, 1944 at 8:00 P.M. At 1:30 A.M., November 26, 1944, Mrs. F. A. began to have chills and her arms and legs began feeling numb. At 2:00 A.M. she began having pains all over her body, especially the joints. However, she did not have any nausea, vomiting or diarrhea. She was seen at 5:30 A.M. at which time she felt weak and somewhat prostrated and complained of severe pains in her arms and legs. She was unable to walk a few steps without pain. Paresthesia was already present and she described a numb feeling in her fingertips and toes. Knee jerks were absent on November 28. Codeine grains ½ and aspirin grains 10 relieved the pains but had to be repeated every two or three hours. Improvement and disappearance of symptoms were gradual and on December 8, 1944 she felt well but slightly weak.

At 12:30 A.M. on November 26, 1944, Mr. F. A. had about six liquid stools at five- to ten-minute intervals and his chief complaints were pains in both knees and thighs. Numbness of his hands was only slight but he noticed weakness of his bladder and had to make an effort to urinate as in Case 1. He was able to be up and about on November 27, 1944, although he still had muscular aches and pains and pruritus of his palms.

Miss E. A. had severe vomiting spells and about six watery stools. At 5:30 A.M. when I examined her she seemed to be cold and clammy and was complaining of body aches and pains. Heart, lungs and abdomen were normal. On November 27, 1944 a maculo-papular eruption, associated with itching, appeared on her chest, abdomen, arms and thighs, which lasted for two days. Calamine lotion relieved the itching.

CASE 8. Miss A. C., Caucasian, age 26, ate some black sea bass on November 27, 1944, and had vomiting and diarrhea followed by muscular aches, pains and tingling sensations in her finger tips. Five others in the same party also became ill four to five hours after eating this fish. These cases were diagnosed as ptomaine poisoning by their own physician.

DISCUSSION

Fish poisoning caused by alkaloids in the flesh of fishes has been reported fairly frequently in the literature for the puffer fish. Most of these cases ended fatally.

No special studies of the suspected fish have been made in regard to the sea bass, and limited facts are available about the clinical studies of the victims; because no fatalities have been reported, no pathologic or post mortem studies exist. Outbreaks in the West Indies usually occur during the months of August through January.

This report discusses the possibilities of fish poisoning by other varieties of fish brought in from the warmer waters of the South Pacific. It will be difficult to determine from the fish brought in whether they are toxic to man. Certain months of the year when the algae, plankton or mussels eaten by these varieties of fish develop poisonous qualities should be known so that the public can be warned about the toxic qualities of them. Further studies of the flora and fauna of the South Pacific Islands should be carried out by governmental agencies. If the fishing industry expands to these atolls in the South Pacific, more cases of this variety of fish poisoning will occur. The problem will continue to be difficult, if more fish is brought in from the South Pacific, until we know the varieties of fishes that are poisonous, the time of year they are edible or poisonous and the locality where the poisonous varieties of fishes are caught.

Fish poisoning due to an inherent toxin causing similar outbreaks has been reported in the literature, particularly in the West Indies area. Walker[5], Mann[6], and Gilman[7] reported in detail the outbreaks in Porto Rico and the Virgin Islands. Patients reported in those outbreaks presented signs and symptoms identical with those seen in the Honolulu outbreak. The same pathognomonic signs and symptoms—vomiting, diarrhea, aches and pains in the joints and extremities, followed by tingling and numbness of the extremities and the feeling of coldness when warm objects are touched as contrasted to the feeling of warmth when cold objects are touched—followed the eating of apparently fresh fish. In this series gastrointestinal symptoms have short duration in comparison to nerve symptoms. Diarrhea lasted only a few hours while nerve symptoms lasted for days.

Gilman[7] in his review on this subject considered the symptoms of fish poisoning clear cut and pathognomonic. The onset is from one to six hours after eating the fish. The patient appears critically ill, with severe nausea, vomiting and diarrhea. There is a distinct metallic taste (this was not noted in the Honolulu outbreak). The skin becomes flushed and there is tingling and itching that may last for days. Cramps in the extremities may occur. Subsequently there may be reduced or absent knee jerks. Hyperesthesia and paresthesia are commonly associated. There may be associated nervousness, restlessness or insomnia. Albumin, casts, and frequency of urination may be noted. The illness may last from one to three weeks with gradual recovery. No fatalities have been recorded.

Walker[5] and Gudger[8] in their papers describe, as possible causes for the formation of inherent toxins in the living fish, the eating of poisonous "manchineel" (fruit of the West Indies area), molluscs, zoophytes, corals, medusae, holothurians and protozoans containing a toxin which may be harmless to fishes. In the literature the toxin is described as a toxalbumin (an alkaloid) present in certain living forms in the sea. Walker[5] uses the term ichthyotoxism to describe fish poisoning in humans following the ingestion of an inherent toxin apparently harmless to the fish.

Steinbach[9] in his article on fish poisoning in the Marshall Islands in 1893 reported that the natives recognized at that time that certain varieties of fish were toxic to man when caught during some months of the year and in specified areas. The symptoms described by him were headache, nausea, diarrhea, fever at times, and cold hands and feet combined with prickling and numbness.

Of interest in most of the articles is the statement of natives and writers that the larger the fish of the particular specimen that may be a carrier of the toxin, the more dangerous and toxic it is to man. The relation to spawning seasons and infectious diseases in fish are also described as affecting the toxicity of them to man. It is also stated that in certain localities fish caught in one part may be eaten with impunity while the same species caught barely a mile away is regarded as poisonous.

Hermann Sommer, Ph.D. and K. F. Meyer, M.D., in the *California State Department of Health Weekly Bulletin* for April 26, 1941, discuss in detail mussel poisoning, a paralytic form of shellfish poisoning. It is a severe form of food intoxication caused by eating mussels or clams caught off the California coast, particularly at certain times of the year. The State Health Department issues an annual quarantine of mussel or clam fishing during the months of May through November. Up to July 1940, 310 cases of mussel poisoning with 7 deaths and 20 cases of clam poisoning with 5 deaths were reported in California. The original source of the poison here is a plankton which occurs most abundantly in the summer. When they multiply to a concentration of 40 million per liter, the water for miles presents a deep red color and at night a beautiful luminescent spectacle. The poison is an alkaloid belonging to the class of strychnine, muscarine and aconitine, and has been purified to a high degree in the form of its hydrochloride. Tested on mice, it has been found that one millionth of a gram is sufficient to kill the animal. The fatal dose for man

is probably a few milligrams. It is heat stable in acid or neutral solution but is gradually destroyed by boiling with alkali. The mussels ingest the plankton and store the poison in their digestive glands without harm to the mussel. The resulting toxicity is proportional to the number of plankton ingested and to their alkaloid content. The stored poison is slowly excreted by the mussel in a few weeks.

We believe that during certain months of the year certain varieties of fish feeding in shallow waters off the South Pacific atolls may ingest some pelagic plant or animal that contains an alkaloid. The toxicity of the fish will then be dependent on the number of organisms present in the ocean during that period and the degree of ingestion by the fish.

SUMMARY AND CONCLUSIONS

Several dozen cases of fish poisoning caused by eating a variety of sea bass brought in from the South Pacific Islands are reported, 8 of them in detail. It is believed that the etiologic agent is a heat-stable alkaloid present in the apparently fresh fish. The signs, symptoms, and public health implications are described.

There will be no difficulty in keeping the people in Hawaii from eating the well known poisonous puffer or balloon fish. However, every effort should be made to prevent the bringing in or sale of fish, when the natives where the fish are caught know them to be dangerous. The practice of bringing in fish caught on the surface or found on the surface, even though they appear good, should also be prohibited.

Studies and observations should be made by those who have the facilities and trained personnel to classify and record fishes that may produce fish poisoning in water of the South Pacific and the Hawaiian area.

Physicians and others in this area should be on the lookout for this form of fish poisoning and should report cases or suspected cases to the health department as soon as possible to prevent the development of additional cases.

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A Doctor Looks at Automobile Accidents

WILLIAM JOHN HOLMES, M.D.

Honolulu

In 1944 Honolulu motorists killed 82 and injured 1866 persons. There were 21 children under 15 years of age among the fatalities. The traffic deaths increased 78 per cent and the casualties 6 per cent over the figures of the previous year. These statistics far exceed the past three years' death and accident tolls of mainland cities with comparable populations.

An accurate analysis of the causes responsible for this enormous rise in the accident rate is difficult to make, as nearly all of them were brought about by a combination of several factors. There is, however, one factor that figures prominently as an important contributory cause in almost every instance. This is the element of human failure. If it is true that "an automobile is no better than the driver who manages it, and the driver is no more efficient than the eyes through which he sees to direct his machine" it seems timely to reexamine the laws governing the granting of driver's licenses in the Territory.

The chief purpose of this discussion is to call attention to the desirability of establishing a systematic examining procedure for licensing private drivers and chauffeurs in Honolulu; it further aims to emphasize the advantages that might accrue from rigid adherence to a few standard physical requirements, conducted by competent examiners.

The recommendations set forth in the following paragraphs are based upon a detailed analysis of the visual requirements, where such exist, of the forty-eight States and Canada and upon the Uniform Traffic Code suggested by the American Association of Motor Vehicle Administrators; they are further based upon the conclusions that were reached from the personal supervision of examinations given to 750 soldiers at Schofield Barracks and the coordination of all these data with problems of strictly local nature gained through membership on the Traffic Safety Commission of the City and County of Honolulu.

The provisions of Section 2650-D, Section 4, Session Laws 1937, read as follows:

"Sec. 2650D, Section 4. What persons shall not be licensed. The Examiners of Chauffeurs shall not issue any license hereunder:

(*a*) To any person, as an operator or chauffeur, whose license has been suspended, by a court of competent jurisdiction, during such suspension period, nor to any person whose license has been revoked until the expiration of one (1) year after the date of such revocation.

(*b*) To any person as a chauffeur who is under the age of twenty (20) years.

(*c*) To any person, as an operator or chauffeur, who has been adjudged an habitual drunkard or an addict to the use of narcotic drugs by a court of competent jurisdiction.

(*d*) To any person, as an operator or chauffeur, who has previously been adjudged to be afflicted with or suffering from any mental disability or disease and who has not at the time of application been restored to competency by the methods provided by law.

(*e*) To any person, as an operator or chauffeur, who is required by this Act to take an examination, unless such person shall have successfully passed such examination.

(*f*) To any person who is required under the provision of the motor vehicle financial responsibility laws of this Territory to deposit proof of financial responsibility and who has not deposited such proof.

(*g*) To any person when the Examiner of Chauffeurs has good cause to believe that such person by reason of physical or mental disability would not be able to operate a motor vehicle with safety upon the highways; provided, however, that any person denied a license under this or any other section of this Act shall have a right of appeal as hereinafter provided.

(*h*) To any person, as an operator, who is under the age of fifteen (15) years."

On the basis of the foregoing it is reasonable to assume that any person who does not fall into one of the categories specifically listed above is considered a safe driver and in all likelihood will be granted a license to operate a car in Hawaii. The provisions make no mention of examination of individual accident-prone drivers; neither do they require a periodic reexamination to keep individual drivers' licenses up to date. Yet the accident rates quoted at the beginning of this article indicate that the existing laws are not sufficiently severe and that more legislation may be needed to control the steadily mounting loss of life and limb.

Recognizing the necessity for greater care in the operation of motor vehicles on the highways, the House of Delegates of the American Medical Association at their 1938 annual meeting adopted the following resolutions. The standards set forth were developed by the Section on Ophthalmology, where this program had been under consideration for many years:

RESOLVED, That the following be accepted as the approved American Medical Association standards:

A. *For an Unlimited License:*

1. Visual acuity with or without glasses of 20/40 Sn. in one eye and 20/100 Sn. in the other.
2. A form field of not less than 45 degrees in all meridians from the point of fixation.
3. The presence of binocular single vision,
4. The ability to distinguish red, green and yellow.

5. Night blindness not to be present.
6. Glasses when required be worn while driving and those employed in public transportation provided with an extra pair.

B. *Visual Standards for Limited License:*

1. Visual acuity of not less than 20/65 Sn. in the better eye.
2. Field vision of not less than 60 degrees horizontally and 50 degrees vertically from point of fixation in one eye.
3. Diplopia not to be present.
4. Glasses to be worn when prescribed.
5. Coordination of eye, mind and muscle to be fully adequate to meet the practical visual road tests.
6. A limited license not to be issued to those employed in public transportation.

C. *Renewals, Retesting and Reexaminations:*

1. Renewals of license to be issued at least every third year. The applicant shall with each renewal make a declaration that he knows of no visual defect which has developed during the past year.
2. Retesting of acuity to be made at least every six years.
3. If any visual defects have developed, an examination by an ophthalmologist and the report thereof, to be required before reissuing the license.
4. License to state thereon the specific limitation for driving.

In 1944, in response to a request from Army officials for a reliable "Driver's Test" for army personnel stationed in Hawaii, the tests outlined by the American Medical Association were recommended and were augmented by two additional procedures.

The first of these, the Stability Test, was used to determine the amount of swaying exhibited by an individual while he was directed to stand still with his eyes closed. The second one, called the Reactometer Test, measured the time required by an individual to apply the brakes of his "car" upon flashing of a warning signal.

In this series any subject who failed any one of the above seven tests was denied a license to drive. However, examinations of this sort are too time-consuming and cumbersome for general adoption.

The minimum ocular requirement for the issuance of a driver's license should be an ability to see not less than 20/60 using both eyes with or without glasses. If the applicant is unable to see 20/60 with both eyes, he should be sent to an eye specialist to have his vision corrected and told to return later for reexamination.

When an applicant returns from an eye specialist and is able to pass the visual acuity test with his new glasses a notation "Must wear glasses while driving" should appear on his driver's license. If his visual acuity cannot be improved beyond 20/60, he should be rejected.

Of the other tests, visual field studies appear to have some real value, although the percentage of the population having a restricted field of vision seems to be very small. The one-eyed driver represents a definite hazard. A person with normal eyes has a field of vision of about 190 degrees. The one-eyed individual on the other hand has a field of between 110 and 135 degrees, depending upon the degree of protrusion of his good eye and the bridge of his nose. He has to learn to compensate for his defect by turning his head and eye from right to left while driving in order to bring possible dangers from the side into the field of clear vision of the good eye.

Tests for color blindness appear to be the least valuable from the practical standpoint. Color blind individuals compensate for their defects by watching traffic more carefully, and by discriminating between the relative brightnesses and the various positions of the traffic signal lights.

Tests of binocular vision and depth perception are likewise of small practical importance. At our present speed limits, a driver even with only 90 degrees of binocular vision can perceive a car coming at right angles to him at the same speed within 500 yards, and he will be able to stop within that distance.

Tests for night blindness were of tremendous importance at the time these tests were conducted because of our nightly blackouts. With prewar type of automobile head lights and street lights such tests become of far less value and are not recommended for general use.

CHART 1. *Disposition of Cases on Vision Test*
(Adapted from an outline prepared by the American Association of Motor Vehicle Administrators)

20/60 OR BETTER USING BOTH EYES WITHOUT GLASSES	20/60 OR BETTER USING BOTH EYES WITH GLASSES BUT LESS THAN 20/60 WITHOUT GLASSES	20/60 OR BETTER USING BOTH EYES WITH GLASSES BUT 20/60 OR BETTER WITHOUT GLASSES	LESS THAN 20/60 WITH OR WITHOUT GLASSES			
			Sent to eye specialist			
Unrestricted license	Restricted to glasses	Unrestricted license	Re-examined by department			
			Returns with glasses		*Returns without glasses*	
			20/60 OR BETTER WITH NEW GLASSES	LESS THAN 20/60	20/60 OR BETTER AFTER RECEIVING TREATMENTS, ETC.	LESS THAN 20/60
			Restricted to glasses	Rejected	Unrestricted license	Rejected

Thus it appears that the visual status of an individual is not necessarily a reliable measure of his ability to avoid accidents. The problem is more a dynamic one and involves a test for the coordination of the eye, brain, hands and feet. The reactometer is the only instrument employed during the current investigations that furnished some information about this relationship.

Until instruments similar to the reactometer become widely accepted, we must rely upon the testing of visual acuity measurements as our principal means of weeding out unsafe drivers. Almost as important as the test itself is the knowledge and training of the examiner. If the testing were taken out of the hands of lay personnel and entrusted to workers of the Territorial Sight Conservation Bureau they would become that much more valuable as reliable records; furthermore, these workers, on the basis of their training and experience, would recognize all borderline cases and refer them to competent authority for an unbiased opinion as to their potential dangerousness as future drivers.

Lastly, in keeping with the resolutions of the American Medical Association it would seem advisable to require a retesting of visual acuity at least every six years.

The preceding paragraphs are submitted not as a panacea for the prevention of all traffic accidents but as one rational step towards the solution of a major community problem.

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Young Hotel Bldg.

The Use of the Weltmann Reaction in Myocardial Infarction

ALFRED S. HARTWELL, M.D.

Honolulu

Since Oscar Weltmann[1] published his serum coagulation test in 1930 there has been ample recognition of its usefulness in European literature, but in this country it has received scant notice. I have found it of such help in the management of patients with myocardial infarction that I believe it deserves widespread attention. The test yields reliable and valuable information and is simple to perform. A summary of the supposed principles of the test and its technic has been ably presented by Delaney and Keyes[2]:

Weltmann observed that normal human serum, diluted to fifty times its volume with distilled water, did not coagulate when heated in a boiling water-bath. When tap water was used, or when electrolytes in the form of chlorides of calcium, barium, or magnesium were added to the serum, coagulation occurred upon heating. Inflammatory and exudative processes so altered the serum that coagulation occurred only in solutions containing high concentrations of the electrolytes. Chronic diseases characterized by fibrosis, the healing stages of acute infections, and parenchymal liver damage so changed the serum that coagulation also occurred in the more dilute solutions. On the basis of these preliminary observations Weltmann devised the serocoagulation test. In principle, the test is carried out by boiling in a water bath equal quantities of serum and graduated concentrations of bivalent electrolytes.

Technique

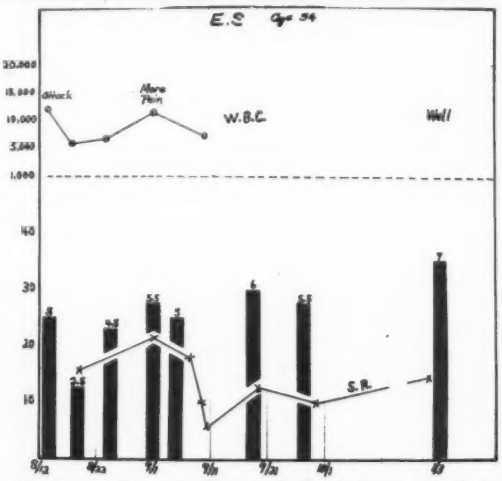
The test is simple to execute, easy to control, and requires little apparatus and material. Simplified modifications and micromethods have been devised. The following is the standard method described by Weltmann. Ten dilutions are prepared in 500 cc. quantities from a stock solution of 10 per cent $CaCl_2 \cdot 6H_2O$, namely, 0.1, 0.09 0.08, 0.07, 0.06, 0.05, 0.04, 0.03, 0.02 and 0.01 per cent. These dilutions are numbered from 1 to 10, beginning with the most concentrated. Ten small (Wassermann) tubes are placed in a wire rack and also numbered 1 to 10. Into each are pipetted 5 cc. of the corresponding dilution, and exactly 0.1 cc. of unhemolyzed serum is added. The tubes are shaken to insure mixing of the contents and placed in a boiling water bath. In fifteen minutes the tubes are removed and examined. The highest dilution producing coagulation is observed. Flocculation, rather than turbidity or opalescence, is read as the end point. The number of tubes in which coagulation occurs determines the coagulation band (C.B.) of that particular serum.

It is worthy of special emphasis that the calcium chloride to be used *must be* $CaCl_2 \cdot 6H_2O$. Any other form of the salt will yield extremely erroneous results. There follow three case reports which exemplify the usefulness of the Weltmann reaction in the management of patients with myocardial infarction.

REPORT OF CASES

CASE 1. A university professor, Anglo-Saxon, age 54, was attending a round table discussion when he noticed a steady pressing substernal discomfort which compelled him to limit his comments and retire from the meeting. He was seen at the office within two hours. He appeared well. His temperature was normal. Blood pressure was 130/70, and physical examination was normal. An electrocardiogram, including three precordial leads, was also normal. The diagnosis of coronary failure (using the term as understood by Blumgart, Schlesinger and Davis[3]) was made, with the possibility of myocardial infarction in mind. The latter not having been as yet proven, he was allowed to return home and given sedation. Next morning he returned to the office as ordered. At this time his precordial leads showed unmistakable evidence of a recent infarct of the heart and his heart sounds were more distant.

He was immediately hospitalized. His laboratory data during the subsequent six weeks and a later observation three months after discharge, are shown in the accompanying graph, which shows the relationship between serial white counts, sedimentation rates and Weltmann reactions.

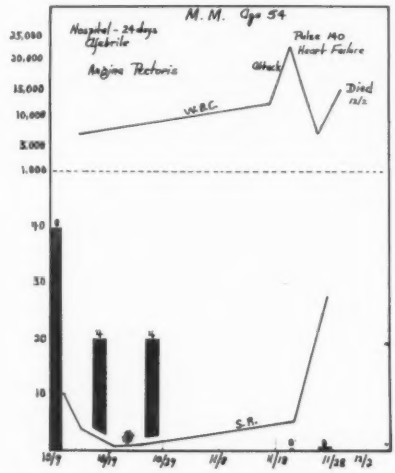


GRAPH 1 (Case 1). The graph shows the course of the white count (WBC), sedimentation rate (S.R.), and Weltmann reaction (solid columns) during the six-week hospital stay, and the findings three months later.

CASE 2. A Russian-born Jewish businessman, age 54, had had symptoms suggesting coronary heart disease for the past year. Three months before these studies were made he had had severe substernal distress while moving some heavy stones about in his garden. He was made to rest for about a week but being of an energetic temperament he was soon up and about in the full tide of an active business life. A cholecystogram had shown gallstones; an electrocardiogram had been normal.

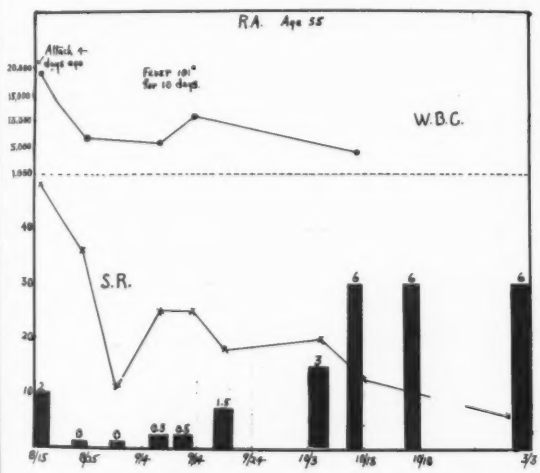
When first seen he had had mild substernal distress on exertion the day before. His Weltmann was C.B. 8, which may have reflected a previous fibrosed infarction or may have mirrored hepatic cell damage associated with gallstones. Sedimentation rate was 10 mm. per hour. He was told to rest at home, but a week later shortly after breakfast he was seized with moderately severe precordial pain, ra-

diating to both shoulders. This was accompanied by most violent activity. He threw himself about the bed and cried out. He was hospitalized and remained in the hospital for twenty-four days. Throughout this period he was afebrile. He never had leukocytosis or an increased sedimentation rate.



GRAPH 2 (Case 2). Note the two findings of a Weltmann of zero during the terminal illness. Autopsy showed a large fresh myocardial infarct.

The graph shows that his Weltmann was C.B. 4 on two occasions. He had several mild attacks of angina even at rest, relieved by nitroglycerin. The presence of gallstones was emphasized by a consultant as a possible factor in his illness. Two electrocardiograms were normal. There was no jaundice. He was then allowed to go home, after twenty-four days in the hospital, with strict orders to rest. These were carried out in moderation. One month later an extremely severe prolonged attack of substernal pain occurred. Again he was hospitalized but this time his electrocardiogram showed a fresh anterior myocardial infarct. His white count was 24,000, sedimentation rate 28 mm. per hour (Westergren method: normal, 6–10) and Weltmann C.B. 0 (normal 6). After a short stormy ten-day course, with another Weltmann of C.B. 0 on the day before death, he suddenly expired. Autopsy showed a very large myocardial infarct involving most of the lateral wall of the left ventricle.



GRAPH 3 (Case 3). The laboratory findings during the two months' hospital stay and a follow-up five months later are shown, with white count (WBC), sedimentation rate (S.R.), and Weltmann reaction (solid columns).

CASE 3. A 55-year-old Anglo-Saxon liquor store proprietor, while walking, noticed a pressing pain in his chest lasting five hours. Four days later he presented himself for examination. He had a fever of 100 F. and an electrocardiogram showed changes consistent with a recent myocardial infarct. His Weltmann was C.B. 2.

The graph shows the laboratory data during his nine-week hospital stay. The final column records the sedimentation rate and Weltmann five months after discharge. He has returned to work and is well.

DISCUSSION

It is worth repeating that the Weltmann coagulation band will not make a diagnosis. The results must be carefully correlated with the clinical condition of the patient. So far as myocardial infarction is concerned, once the diagnosis is made by other means, *e.g.*, history, physical examination or electrocardiogram, the Weltmann reaction is of extreme value in telling one how large an infarction is present, how long the tissue necrosis persists, and the degree of healing. The graphs above demonstrate some examples of this. In them are shown the relationship of the Weltmann reaction, sedimentation rate, and white cell count. Long after the temperature, white count and sedimentation rate have returned to normal the Weltmann may give incontrovertible proof that the area of infarcted muscle is not yet healed and that the patient had best remain as quiet as possible for a while more.

The pioneer work of Levinson[4] in this country in 1935 in the study of the Weltmann reaction has gone almost unnoticed. Fennel[5], in 1937, noted its value. Since then Dees[6], Schweinburg[7] and others have published studies on its use. Dees[8] carried out experiments in an effort to solve the mystery of its physiochemical principles. She and others have shown that plasma proteins, pH, electrolytes and bilirubin have nothing to do with the reaction. Blood calcium level does affect the band slightly. Dees advances interesting evidence that serum lipids may be the determining factors, and points out that blood fatty acids are often lowered in acute infections.

In this short report the value of the Weltmann reaction is illustrated only in myocardial infarction. It is to be remembered that it is also of value in other conditions. Diseases characterized by inflammation and tissue breakdown such as pneumonia, active rheumatic fever, tuberculous peritonitis, and acute suppurative appendicitis show a shortening or shift to the left of the coagulation band. On the other hand,

diseases in which there is parenchymal liver damage or fibrosis such as healing tuberculosis will show a prolonged coagulation band or a shift to the right. An excellent discussion of the use of the Weltmann reaction in differential diagnosis is given in the new edition of "Clinical Laboratory Diagnosis" by Levinson and MacFate[9].

In conclusion, it should be stated that this paper is largely a confirmation of the work of Delaney and Keyes. Their paper was published in a journal whose readers are largely specialists. This is true of most of the papers in this country regarding the Weltmann reaction. Because myocardial infarction is common in general practice it is felt that this valuable aid in its management should be presented to the general medical practitioner.

An expression of thanks is made to Dr. E. A. Fennel for his help in the preparation of this paper and to Dr. I. L. Tilden for making the graphs.

881 So. Hotel St.

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HAWAII MEDICAL JOURNAL

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EDITORIALS

PHYSICAL FITNESS TO DRIVE A CAR

Is everyone physically capable of driving a car? Obviously, the answer is no. Hawaii's laws provide that persons known to be physically unfit shall not be issued a license to drive.

But suppose such a physically unfit person has applied for a license to drive—and been given it—*before he or she became physically unfit?* There is no provision, as things now stand, for revoking such a person's license until and if some serious accident occurs. We ourselves were licensed to drive in Hawaii in 1928; a duplicate license was issued to us on request in 1939; and on neither occasion was any test of visual acuity made. If we were now half blind we would still be legally privileged to drive a car in spite of it.

This is a dangerous way of doing business. A man who is able to pass a practical driver's examination at the age of 18 may be grossly unfit to drive a car by the time he is 40. Some step should be taken to insure the cancellation of his license to drive within a reasonable period after the beginning of his disability.

The two steps seem so obvious that it should hardly be necessary to suggest that they be taken. One of them is urged elsewhere in this issue of the JOURNAL: test would-be drivers' visual acuity and require them to meet a minimum standard. The other—already in force in many states—is to require renewal of drivers' licenses every three to five years.

LET'S ELIMINATE TUBERCULOSIS AND SYPHILIS

Two of the most serious and readily preventable diseases we have in the Territory of Hawaii are tuberculosis and syphilis. Both of these diseases are important sources of incapacity and death; and both of them can be controlled and eradicated by methods now known and in our hands.

The first step is obviously to discover all the cases of both diseases. For tuberculosis this would require chest x-rays of virtually everyone in the Territory. This is a big job, but—in view of the new miniature film technique and the increasing popular realization of the importance and desirability of chest x-rays—not an impossible one. Industrial surveys, plantation surveys, and health department surveys of special groups, may well accomplish virtually complete coverage of the Territory within the next few years. A bold, frank policy of *advertising* the need of such chest x-rays at intervals—after the medical profession and the Board of Health understand each other on this program—might reach many individuals not included in the special groups mentioned.

For case-finding in syphilis, general application of serologic tests for the disease is required. In Alabama this has been required by law for everyone between fourteen and fifty. The law seems to have been favorably received by the public—a circumstance which is almost essential to the success of any such measure. We now have such a law in Hawaii for pregnant women, and it is to be hoped that the next legislature will pass a similar law for persons planning to be married. The latter type of law is now in force in some thirty states.

The second step in a program of eradication of these diseases is to prevent all discovered cases from transmitting their infection to anyone else. For syphilis, we have ample treatment facilities, both private and public, wherewith to accomplish this. For tuberculosis we do not—for the isolation and treatment of tuberculous patients requires sanatorium beds, and we have not enough of these in the Territory. In spite of this circumstance, some degree of protection of others can be obtained even in homes, if all infected persons can be identified and educated; so the lack of

hospital facilities should not stop us from finding as many cases as possible.

Tuberculosis and syphilis are discoverable and preventable, and their occurrence in any community is really a matter of negligence. We have virtually eradicated smallpox; we have virtually eradicated diphtheria; we have virtually eradicated typhoid fever; and we can virtually eradicate tuberculosis and syphilis. Let's go ahead and do it!

C. L. WILBAR, JR., M.D.,
President, Board of Health

PATHOLOGISTS' MEETING

The Hawaii Society of Clinical Pathologists held a seminar meeting on the evening of Dec. 1, 1944, at Tripler General Hospital, Farrington Division. Slides from 7 cases previously mailed to the men attending were projected upon a screen and the cases discussed. Following the meeting refreshments were served by the Army. The following men were present: Lt. Col. C. S. Moran, M.C., A.U.S., Cmdr. E. J. Losli, M.C., U.S.N.R., Dr. Sumner Price, Dr. Thomas Chang, Capt. Henry S. Bernet, M.C., A.U.S., Lt. Col. Tell Nelson, M.C., A.U.S., Major Henry E. Davidson, M.C., A.U.S., Capt. Fred Dick, Jr., M.C., A.U.S., Capt. William Levison, M.C., A.U.S., Dr. E. A. Fennel, Cmdr. O. A. Brines, M.C., U.S.N.R., Cmdr. K. Fowler, M.C., U.S.N.R., Dr. M. Barnes, Dr. I. L. Tilden, Lt. Col. Carl F. Tessmer, M.C., A.U.S., and Major David Adler, M.C., A.U.S.

DERMATOLOGISTS' MEETING

The Hawaii Dermatological Society met on the afternoon of December 9, 1944, at 881 South Hotel Street. Ten dermatologic cases were presented and discussed. Present were Dr. Harold M. Johnson, Dr. Harry L. Arnold, Jr., Major David Musman, M.C., A.U.S., Captain L. H. Rosenthal, M.C., A.U.S., Captain Herbert Lawrence, M.C., A.U.S., Captain Fred Licks, M.C., A.U.S. (by invitation), and Captain Irving N. Holtzman, M.C., A.U.S. (by invitation).

The next meeting will be held on March 10, 1945, at the same location. Notification will be made by post-card on request. Requests should be directed to Dr. Arnold, Jr., at 881 South Hotel Street.

COMBINED DIPHTHERIA-TETANUS TOXOID

A recent Board of Health communication quite properly urges all physicians to give children the combined diphtheria and tetanus toxoid instead of the plain diphtheria toxoid. Like the latter, this combined toxoid is to be given at nine and again at eleven or twelve months of age.

The advantage of this lies chiefly in the fact that it will eventually make it possible to give tetanus toxoid booster injections to children exposed to the risk of tetanus, instead of using the relatively ineffective tetanus antitoxin. As matters now stand, it is rarely possible to be sure that a child has had the basic immunizing injections of tetanus toxoid, and consequently it is not safe in most cases to use the toxoid booster injection.

A glance at tetanus morbidity and mortality statistics will suffice to show why a change is needed. In the past ten years, there has been no significant decline in these figures. In Hawaii, every month, about two persons develop tetanus, and one of them dies of it. Plainly, the antitoxin is not effective enough. We believe that the toxoid will prove more effective, but if it is to get a chance to reduce the incidence and the mortality if the disease, it must be more widely employed than is now the case. case.

The protection against diphtheria afforded by this combination is just as great as that afforded by diphtheria toxoid alone. The combined preparation simply permits an effective action to be taken against two different diseases by the injection of a single preparation. There can be no excuse, and no reason but indolence or ignorance, for failing to take advantage of this procedure in every case in which it is not specifically contraindicated.

DR. JOHN BURDEN HONORED

It has recently been announced that Major John A. Burden, A.U.S., formerly physician for Baldwin Packers on Maui, was awarded the Bronze Star by General Joseph W. Stilwell in a ceremony held at C-B-I Forward Echelon Headquarters. A dispatch from Washington also stated that Dr. Burden had been presented the Legion of Merit medal for meritorious service against the Japanese at New Georgia and Vella Lavella islands. Dr. Burden also holds the Purple Heart awarded in January 1943, and the Silver Star awarded on March 18, 1943.

CLINICAL NOTES

SURVEY OF BOOTBLACKING ACTIVITIES IN HONOLULU AND WAHIAWA*

A brief investigation of the shoe polishing or bootblacking activities as practiced on the island of Oahu has revealed the following data.

Specific Hazard Found Existent

There are at present approximately 780 persons engaged in ths activity, ranging in age from 10 to 22 years. The work of these young people deals almost entirely with shoes while they are being worn.

Of the above total, 128 were contacted and about 46 per cent were found to carry shoe dyes for use in their work. In each instance the manufacturer's instruction as found on the bottles stated that the shoes must be removed before dyeing and allowed to dry for from twenty-four to thirty-six hours before again being worn. All bootblacks found carrying dyes were working within the city limits of Honolulu. At Wahiawa and other locations, bootblacks stated that attempts had been made to buy a similar dye but none was for sale in their local market.

Analysis of Shoe Dye Found in Use

Laboratory analysis was as follows:

Nitrobenzene	11%
Ethyl Alcohol	65%
Coloring agent and Impurities	23%

The hazardous portion of the above mixture is represented by the nitrobenzene, a dangerous lipoid poison. Cases resulting from skin contact are more numerous in literature than those reported through inhalation, although acute symptoms can result from either, as well as from the combined influence of both. The symptoms result from its influence on the blood, and too, its direction action on the central nervous system.

Symptoms of Nitrobenzene Poisoning From Shoe Dye

This is usually characterized by marked cyanosis, sometimes accompanied by vertigo and weakness, digestive disorders, headache and somnolence. Some deaths have been reported.

Numerous instances of poisoning from nitrobenzene have been reported from many parts of the world. Here in Hawaii, abstracts of data pertaining to poisonous dyes in shoe preparations were compiled in 1937 in order to substantiate three cases of serious illness which occurred here at that time. In this instance, service personnel while on leave had their shoes dyed at the same stand, walked about in them, and then attended a moving picture show. All three were overcome sometime after leaving that establishment, their symptoms becoming progressively worse.

An article in the *Journal of the American Medical Association,* volume 84:1987–1991 (June 27, 1925), indicates that minute amounts of this substance have been known to cause symptoms and points to instances where laundry inks containing nitrobenzene used to mark diapers caused cyanosis in children.

This article states also that most American manufacturers of shoe dyes use nitrobenzene because of its low cost. Listed also are additional data in regard to shoe dye poisoning cases previous to that date. Other articles have since added to the list of cases that have become matter of record. Reference is made by Kober and Hayburst, in connection with excessive nitrobenzol used in certain products, to hemoglobinuria and severe poisoning having been caused "such as we have repeatedly seen from the use of shoe polish . . ."

Present Additional Contributing Factors

According to the shoe shine boys that were questioned, the volume of their business is distributed as follows: (1) army personnel, (2) navy personnel, (3) the civilian group.

A fairly large proportion of the army personnel were reported as wearing high shoes, thus increasing the amount of dye which might be applied.

Many of the shoes polished were reported as being quite badly scuffed. Money being relatively plentiful and tips good, the youngsters smeared the shoes liberally with dye in order to improve the shine by deepening the color. None of those interviewed had ever received instruction on shoe polishing, let alone dyeing.

The present method of dyeing and polishing tends to increase the hazard to the wearer. The dye is used "when they ask for it," which is in about 30 per cent of the Honolulu shines, and is followed almost immediately by a waxing compound. This tends to seal off, to some extent, the otherwse possible outward evaporation effect.

Because of the present traffic load and certain other factors, customers often cover quite extensive distances on foot, thereby increasing moisture within the shoe and on the shoe lining, and increasing the possibility of the solvent's reaching the skin surface.

* By Division of Industrial Hygiene, Board of Health.

Then again, many adults are using alcoholic beverages to some extent, and Hamilton and others have shown that alcohol, not necessarily in excessive amounts, can greatly accelerate and intensify the effects from nitrobenzene contact. Ordinarily, symptoms are not noticeable until quite some time after the chemical has made contact with the skin.

Observations Regarding Possible Effect on Bootblacks

The shine boys were found protected to some extent by the following:

A. The fact that a dauber placed on a wire stem was used to make the application.

B. The accumulation of wax on their hands from the polishing operation helped to seal off contact from the dye that might otherwise reach the fingers. Very little discoloration was noted on their hands. The fact that only 30 per cent of the shoes polished in Honolulu are dyed would help to maintain this wax protection on their hands.

FREDERICK A. SCHRAMM
Chief, Industrial Hygiene Division
Board of Health

NEUROPSYCHIATRIC COMMENT

THE FUNCTION OF THE PSYCHIATRIC SOCIAL WORKER IN A GENERAL HOSPITAL

To the general hospital comes a large group of individuals, both children and adults, for whom the science of medicine has not been able to effect a complete cure. "Study of general hospital admissions has shown uncomplicated organic disturbances to be the difficulty in only one-third of all admissions. In another one-third of general hospital patients, the illness is partially due to organic disturbances and partially due to physiologic or emotional reaction to difficulties in the field of personality. In another one-third of general hospital patients, thorough examinations failed to reveal any organic disorder whatever and established the fact that these individuals were presenting physiologic disorder as a result of personal difficulties[1]." Accordingly, two-thirds of the patients coming to the general hospital present somatic complaints, usually of such a nature as to make it difficult for them to carry on their daily living responsibly and productively within the family and community. They present psychiatric problems. With dislocations of normal family living, exacting and long hours or work, and general emotional pressures of today this group is becoming larger. A further increase is being and will continue to be found as our veterans return, many with a diagnosis of "psychoneurosis" whose complaints are chiefly somatic in character[2]. Since the strength of a nation lies in the health, physical and emotional, of its children and adults, it is the concern of everyone that this problem be met as effectively as possible.

Because such illnesses have not responded entirely satisfactorily to medical treatment, research has been developed in the field of psychosomatic medicine. It is now being recognized that the emotional element plays some etiological role in these illnesses, varying in importance with the individual. There is greater awareness of the related functional needs of an individual; in other words, greater awareness of the need for a psycho-biological approach to illness.

The Position of Psychiatric Social Service

Recognizing the importance of treatment of the related needs (that is, physical and psychological) of individuals, a few general hospitals have employed, as a part of the hospital service, a psychiatrist and a psychiatric social worker. More often, due to the lack of psychiatrists, we find the psychiatric social worker employed by the hospital. (In such instances supervisory services of a community psychiatrist should be available for the worker's use.)

As would be expected, psychiatric social work began (as did psychiatry) in mental hospitals. Boston Psychopathic pioneered, beginning and developing a training during the decade of World War I, 1910–1920. Psychiatrists were aware that many patients could have been helped to get well more quickly and could have been protected from relapses if there had been better understanding of and help given in the area of their daily lives and daily work-help in the area of their living relationships. However, the psychiatrist did not have time to develop this approach, nor did he have time to get adequate social histories to better understand the patients' illnesses. Thus, the psychiatric social worker became the means for extending the services of the phychiatrist. Today, these contributions promise a social value which reaches far into the educational field of prevention of illnesses and maintaining better mental health as well as into that of general social progress.

Training for Psychiatric Social Service

It might be well to review briefly how people are trained for this work. The psychiatric social worker has two years of professional training in a graduate school of social work, giving a Master's degree. Usually the training includes eighteen months of supervised experience, nine of which are in a family or children's agency or psychiatric clinic for adults or children. Besides casework, courses in the training include: medical information, community organization, economics, sociology, government, child welfare, nature of human behavior, social psychiatry, advanced psychiatry, psychopathology and clinical demonstration in a mental hospital.

Functions of the Psychiatric Social Worker

The psychiatric social worker does not do psychotherapy as does the psychiatrist. In other words our task is not to bring about fundamental personality changes but to help individuals to use their own personality strengths to live more responsibly and productively within their family and community relationships.

Returning now, specifically, to the function of the psychiatric social worker in a general hospital, it is obvious that some of the "two-thirds of the general hospital patients" will need psychotherapy if they are to get well, but a great many can use psychiatric case work service advantageously. The psychiatric social worker is trained to recognize factors in the life situation of individuals which may be producing physical symptoms. Most of us are familiar with

the example of the person suffering from a stomach upset, the basis for which lies in a marital difficulty. We are familiar with the child who is enuretic at home and not in the hospital. The worker is trained, too, to recognize early signs of emotional disturbance which may lead to more serious maladjustment if the individual's living situation remains as it is. So, too, is the worker trained to recognize factors in the individual's life situation which may be detrimental to his recovery. I think of the eleven-year-old boy who had spent most of four years in and out of a hospital because of a very severe case of eczema. He had scarcely ever attended school. His mother was dead and his father took him home intermittently, only to bring him back to the hospital. Over a period of six months' time the social worker helped this boy to adjust to the more or less casual interest his father had in him and helped the father to consider foster home placement as offering more of a home for the boy, thereby meeting more of his emotional needs. When a satisfactory placement was effected, the father was able to show more interest in the boy because he did not have to carry a responsibility that was more than he could handle. The foster mother and the boy carefully followed the medical treatment prescribed. Both were delighted when the eczema began to clear. At the end of five months the eczema had cleared entirely and two months later the boy was enrolled in school with some tutoring so he could go into a class more nearly his own chronological age group. There is no way to know why the medical treatment was successful at this time, but we do know that it had not been successful previously. Might we consider the possibility that a more emotionally satisfying living situation made it possible for the medical treatment to be more effective?

The physician's use of the service of a psychiatric social worker in a general hospital makes it possible for many persons to be helped who, otherwise, may continue to have "hospitalitis," and who may go through life unable to assume average mature responsibility, unable to find pleasure in healthy living. The physician is in a peculiarly advantageous position since these persons are asking for help by coming to the hospital. They bring an attitude of confidence in their doctor, providing him an opportunity to refer them to another professional person who offers a service which may help them. Being referred by the doctor in whom he has confidence may make it less hard for an individual to accept the cause of his illness as not physical. Therefore, the doctor's interpretation of this service is important. This is not always easy. However, as a child has confidence in and respect for the inherent authority of a parent, so does the patient have confidence in and respect for the knowledge of the physician. This knowledge is backed by laboratory findings which establish the existence of organic pathology. The physician who is referring a patient to a surgeon can say the surgeon knows how to remove a gall bladder. When referring a patient to a psychiatrist or a psychiatric social worker there is nothing so tangible to contribute. Instead, the physician, himself, must believe in the knowledge and experience of another professional person offering a service which is helpful to the patient, but which does not use medicine or surgery. Saying the psychiatric social worker will "fix you up" doesn't answer. It isn't always true. Some patients are not helped. The patient needs some direction to consider using help to change his situation, to make a more adequate adjustment. The physician, in explaining the service and the need for the patient's cooperation, gives him an opportunity to have a more active part in accepting psychiatric service. Slowly we are recognizing that emotional illness is just as *real* as physical illness. It can be just as great a handicap to an individual. Associated with it is still a stigma which is no longer so with physical illness, but the physician can utilize the patient's confidence in him to be reassuring that it is an illness which can be helped. Therefore, the physician's attitude about emotional illness is important; his attitude about psychiatric service is important. If he feels a confidence in its validity, the patient is helped to consider using it. Referral for psychiatric service does not affect the physician's relationship with the patient.

Another type of services offered by the psychiatric social worker is to members of hospital personnel. Industry has spent time studying the values of such a service to its personnel. Literature now available shows increasing plans for and use of it. Sometimes this is on an individual basis; at other times as a part of planning better relationships and management.

Psychosomatic medicine is comparatively new. The emotional element in physical illness is just beginning to be considered. The well trained, well equipped psychiatric social worker has a very real and important contribution in case work to bring to this field. Its effectiveness will depend to a large degree on whether it merits and gains the confidence of physicians.

References

1. Shanahan, W. M.: Twentieth Century Psychiatry, HAWAII MED. J. 3:185 (March-April) 1944.
2. Cunningham, J. M.: The Development of Psychiatric Service and Its Relation to the Returned Veteran, Connecticut State Med. J. 8:493, (Aug.) 1944.
3. Crothers, B.: A Pediatrician in Search of Mental Hygiene. The Commonwealth Fund, 1937.
5. Witmer, H. L.: Social Work: An Analysis of a Social Institution, Farrar & Rhinehart, Inc., 1942.

MILDRED SIKKEMA

COUNTY SOCIETY REPORTS

HAWAII COUNTY MEDICAL SOCIETY

The semi-annual meeting was held at the Country club in October, sponsored by the doctors of Hilo. The business meeting was dispensed with at that time.

The 232nd regular meeting of the Hawaii County Medical Society was called to order by the President, Dr. M. H. Chang, at 8:15 P.M., November 9 in the Library of the Hilo Memorial Hospital.

A letter from Dr. Kepner, Chairman of the Committee on Psychiatry and Neurology of the Hawaii Territorial Medical Association, in reference to the Legislative Acts regarding psychiatric problems, was read. Dr. Patterson moved that it be referred to the Legislative Committee for further study. This was carried unanimously.

Dr. Leslie stated that he would appreciate it if Puumaile Hospital were given advance notice of patients to be admitted to the hospital. He also reported that all plantations are in favor of having the 4x5 film chest x-ray survey.

H W. KURASHIGE, M.D.,
Secretary pro tem

HONOLULU COUNTY MEDICAL SOCIETY

Meeting November 17, 1944. Dr. Halford presided; about 150 were present. Dr. Halford introduced General John Willis, who is the new chief surgeon of the Pacific Ocean Areas. At this meeting the Honolulu County Medical Society honored the Territorial Association of Plantation Physicians, who were holding their first annual meeting. The program had been planned by the Plantation Physicians' Association.

Program:

1. Critical Analysis of Medical Economic Problems in Hawaii—M. H. LICHTER, M. D.
2. Aims and Aspirations of the Territorial Association of Plantation Physicians—H. M. PATTERSON, M.D.
3. Some of the Medical Lessons Learned in World War II —Army—LT. COL. H. L. MELTZER, M.C., A.U.S.
4. Some of the Medical Lessons Learned in World War II —Navy—COMDR. W. HOBBY, M.C., U.S.N.
5. Some of the Surgical Lessons Learned in World War II —Navy—CAPT. H. K. GRAY, M.C., U.S.N.
6. Some of the Surgical Lessons Learned in World War II —Army—COL. FORRESTER RAINE, M.C., A.U.S.

Meeting December 15, 1944. Dr. Halford read a resolution, passage of which was necessary before the Medical Library could be incorporated to expedite the handling of funds. Upon motion by Dr. Arnold, Jr., seconded by Dr. Benyas, it was voted to pass the resolution.

Upon motion of Dr. Pinkerton, seconded and amended by Dr. Batten, the industrial accident fee schedule was adopted as proposed, with the exception of the x-ray items. It was voted to give the Workmen's Compensation Committee full power to negotiate with the insurance companies for a 15 per cent surcharge over x-ray fees as proposed in the new schedule, and if this is not satisfactory to the insurance companies, to make the best settlement possible.

M. GORDON, M.D
Recording Secretary

KAUAI COUNTY MEDICAL SOCIETY

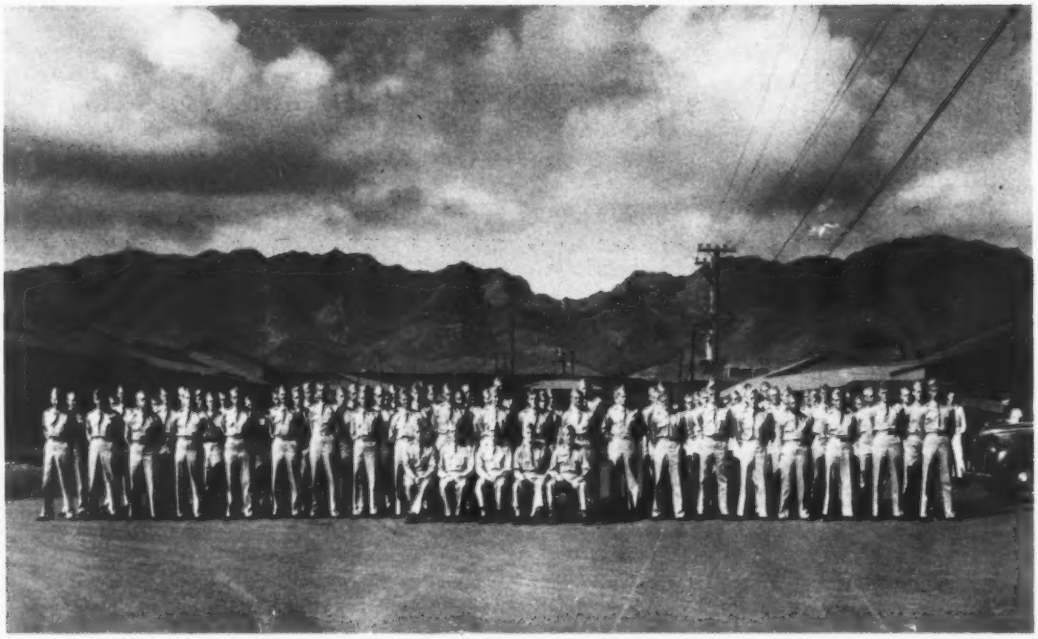
Meeting of November 8, 1944. Members present were Doctors Chisholm, Liu, Boyden, Wallis, Chang, Harris and Hata.

Dr. Wallis, chairman of the committee on the Hawaii Medical Service Association plan, read two letters which he had received from Mr. Carter, executive official of the H.M.S.A., stating that encouraging progress was being made against obstacles slowing up the inauguration of the plan on Kauai. Dr. Wallis announced that he had a copy of the annual report of the H.M.S.A. which would be available to any doctor wishing to read it.

Dr. Chisholm appointed Dr. Hata as chairman of the program committee, the latter position being unfilled due to the recent death of Dr. Betsui.

Dr. Liu informed the members of the action taken by him in sending condolences and flowers to Mrs. David Betsui on the occasion of her recent bereavement, the death of Dr. Betsui.

DAVID LIU, M.D.,
Secretary



THIS IS THE GROUP OF 83 2ND LIEUTENANTS DIRECTLY COMMISSIONED in the Medical Administrative Corps for service in the Pacific Ocean Areas. Seated before the successful candidates are the faculty of the specially established school who prepared these officers for their new responsibilities. Seated from left to right are: Capt. Joseph J. Kopec, company commander of group; Maj. Albert E. Del Negro, post commandant; Maj. Paul E. McFarland, director of training; Capt. Russell M. Webb, and 1st Lt. Robert A. Schenkel, platoon leaders for class. (U. S. Army Signal Corps photo.)

BRIG. GEN. JOHN M. WILLIS, SURGEON FOR ARMY FORCES IN PACIFIC OCEAN AREAS, CONGRATULATES FIVE WARRANT OFFICERS AND 78 ENLISTED MEN ON RECEIVING DIRECT COMMISSIONS AS 2ND LIEUTENANTS IN THE MEDICAL ADMINISTRATIVE CORPS. Group attended a special course conducted by Medical Service, Central Pacific Base Command, concentrating 17 weeks Officer Candidate School work into six weeks, and is largest single group to receive direct commissions in POA at one time. Facing you, from left to right, are: Gen. Willis (standing); Col. Paul H. Streit, CPBC Surgeon; and Maj. Paul E. McFarland, director of training. (U. S. Army Signal Corps photo.)

LIBRARY NOTES

THE HONOLULU COUNTY MEDICAL LIBRARY

MRS. ETHEL HILL, Librarian

MISS DORIS T. YASUTAKE, Library Assistant

Phone 65370

Open daily, except Sunday—8:00 A.M. to 4:30 P.M.—7:30 P.M. to 9:30 P.M.

Loan privileges are extended to all members of the Hawaii Territorial Medical Association, the Nurses Associations, and Army and Navy medical officers.

Loan books are all books in the Library, with the exception of the reference volumes, and the rare and historical collection.

Loan journals are all journals in the Library which are over six (6) months old (except bound volumes).

Fines are five cents (5c) per day for each book or journal kept over the loan period of ten (10) calendar days.

Lost and unreturned books and journals are billed at twice their cost.

Recent Acquisitions

By purchase:

Armstrong, H. G. *Principles and practice of aviation medicine.* 1943.

Bercovitz, Z. T., ed. *Clinical tropical medicine.* 1944.

Glaister, John. *Medical jurisprudence and toxicology.* 7th ed. 1942.

The Merck manual. 7th ed. 1940.

By gift of authors:

Dr. Arthur E. Hertzler. *Diseases of the thyroid gland.* 1941.

Dr. Arthur E. Hertzler. *Grounds of an old surgeon's faith.* 1944.

Dr. Arthur E. Hertzler. *Ventures in science of a country surgeon.* 1944.

Dr. Otto Saphir. *Outline of tropical medicine.* 1944.

From DR. GARTON E. WALL

American Journal of Obstetrics and Gynecology

Annals of Surgery

Digest of Treatment

New England Journal of Medicine

Surgery, Gynecology and Obstetrics

From DR. DONALD C. MARSHALL

Journal of Pediatrics (missing copies)

From DR. KYURO OKAZAKI

American Journal of Digestive Diseases

From REAR ADMR. LUCIUS W. JOHNSON

A.M.A. Hosp. Ass. *Hospital accounting and statistics.* 1940.

From DR. H. C. GOTSHALK

American Journal of the Medical Sciences (missing copies)

New England Journal of Medicine

From DR. ROGERS LEE HILL

Annals of Surgery (missing copies)

From DR. CLARENCE J. GAMBLE

Human Fertility (subscription)

From Palama Settlement

Plantation Health Bulletin (missing copies)

From the University of Hawaii Library

Archivos De Lepra (missing copies)

From the University of North Carolina Medical Library

North Carolina Medical Journal (missing copies)

Southern Medical Journal

From University of Buffalo, School of Medicine

Surgery, Gynecology and Obstetrics (missing copies)

From the New Orleans Medical and Surgical Journal

New Orleans Medical and Surgical Journal (missing copies)

* * *

The *Quarterly Cumulative Index Medicus* indexes by author, subject and title all important medical journals. It is published at quarterly intervals, with bound volumes appearing semi-annually. The file in the Medical Library is complete from 1922 to date.

The *Index Catalogue of the Library of the Surgeon General's Office (Third Series)* dates back to 1918, and covers both books and journals from approximately 1900 to date. This index is arranged in volumes from A to Z, and one volume appears each year. We have recently received volume I-J of the fourth series. This index is more complete in its coverage than the Index Medicus, and a more valuable reference work, but the arrangement delays publication.

The Current List of Medical Literature is published at weekly intervals, and is arranged numerically by

subject. Any doctor who wishes to locate an article or articles which have appeared in medical journals can do so by calling the Medical Library and requesting this service.

* * *

Following is a list of incomplete journal files, not being currently received in the Library. Any doctor who has issues which will help build up these holdings will be doing the Library a great service. This Medical Library, situated relatively close to the Orient, has need of any copies of Japanese, Chinese, Indian, Philippine or Indonesian medical journals. Our growing concern with tropical medicine will make this material an important and necessary part of our library development.

Acta Japonica Medicinae Tropicalis
American Journal of Cancer
American Journal of Clinical Pathology
American Journal of Hygiene
American Journal of Obstetrics and Diseases of Women and Children
A.M.A. Woman's Auxiliary Bulletin
American Medicine
Annales De Instituto Pasteur
Annals of Ophthalmology
Annals of Tropical Medicine and Parasitology
Archivos De Lepra
Archives De Medicine Navale
Archives of Ophthalmology
Archives of Otolaryngology
Archives of Pathology
Archives of Pediatrics
Archives of Surgery
Ars Medici
Bacteriological Reviews
Berliner Klinische Wochenschrift
British Journal of Ophthalmology
Bulletin of the American Society for the Control of Cancer
Bulletin of the Johns Hopkins Hospital
Bulletin of Practical Ophthalmology
Bulletin of the Quezon Institute
Bulletin of the School of Medicine, University of Maryland
Calcutta Medical Journal
Chinese Medical Journal
Clinics of John B. Murphy
Collected Papers of the Harvard Medical School
Collected Papers of the Mayo Clinic
Collected Reprints from the George Williams Hooper Foundation for Medical Research
Comptes Rondus Hebdomadaires Des Seances De L'Academie Des Sciences.
Comptes Rondus Hebdomadaires Des Seances Et Memoires De La Societe De Biologie
Current Medical Digest
Current Researches in Anesthesia and Analgesia
Deutche Medizinishe Wochenschrift
The Diplomate
Endocrinology
Handbuch Der Pathogenen Microganismen
Indian Journal of Medical Research
Indian Medical Gazette
Indian Medical Research Memoirs
International Clinics
International Journal of Leprosy
International Nursing Review
Jahresbericht Pathogenen Mikroogranismen
Japanese Journal of Experimental Medicine
Journal of Anatomy and Physiology
Journal of Bacteriology
Journal of Hygiene
Journal of Immunology
Journal of Infectious Diseases
Journal of Medical Research
Journal of the Michigan State Medical Society
Journal of the Mount Sinai Hospital
Journal of Nervous and Mental Disease
Journal of Nutrition
Journal of Ophthalmology, Otology, and Laryngology
Journal of Pathology and Bacteriology
Journal of Pediatrics
Journal of Pharmacology and Experimental Medicine
Journal of Philippine Islands Medical Association
Journal of Tropical Medicine and Hygiene
Laryngoscope
Lepra
Lepra Bibliotheca Internationalix
Leprosy in India
Leprosy Review
London Medical and Surgical Journal
Mededeelingen Van Den Dienst Der Volksgezonheid in Nederlandsch Indie
Medical Age
Medical Clinics of Chicago
Medical Era
Medical Life
Medical News
Medical Record
Medical and Surgical Reporter
Memorias Do Instituto Oswaldo Cruz
National Journal of China
Ohio State Medical Journal
Ophthalmic Record
Otology, Laryngology, Rhinology, and Ophthalmology
Pacific Coast Journal of Nursing
Pan Pacific Surgical Conference Proceedings
Parasitology
La Presse Medicale
Proceedings of the American Nurses Association
Proceedings of the Wheeling Clinic
Quarterly Bulletin of the Sea View Hospital
Radiography and Clinical Photography
Reports of the Johns Hopkins Hospital
Revista Brasileira De Leprologia
Revista De Cirugia
Revue Belge Des Sciences Medicales
Rhode Island Medical Journal
Science
La Semaine Medicale
Studies from the Rockefeller Institute for Medical Research
Surgical Clinics of Chicago
Therapeutic Gazette

Therapeutic Notes

Therapie Der Gegenwart

Tohoku Journal of Experimental Medicine

Transactions of the Royal Society of Tropical Medicine and Hygiene

Transactions of the Western Section of the American Urological Association

Tropical Diseases Bulletin

Zeitschrift Fur Hygiene

Zeitschrift Fur Hygiene und Infektionskrankheiten

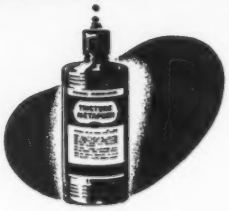
Zeitschrift Fur Immunitatsforschung

Zeitschrift Fur Immunitatsforschung Und Experimentelle Therapie

Zentralblatt Fur Bakteriologie, Parasitenkunde Und Infektionskrankheiten

THIS IS MORE THAN AN ANNOUNCEMENT THAT...

Prices of Tincture Metaphen are now reduced 30% to 46%



Unquestionably, reductions in the prices of Tincture Metaphen are news. When these reductions range from 30% to 46% they are, we believe, important news. • Yet this is more than an opportunity to save money. By virtually eliminating the question of price, it is an open invitation to the physician to reconsider the whole question of antiseptic agents. • Significant facts for such a reappraisal are provided by a study, made by two independent investigators,[1] of fifteen antiseptic agents including most of those in common use. The oral mucosa was the testing area. Each agent, unless found too irritating, was given at least ten trials on as many different subjects as possible. • The results are a matter of record. Tincture Metaphen was designated without qualification *the most effective agent tested.* Why? Because it was found to reduce bacterial count 95% to 100% within five minutes; to cause only slight irritation in a few cases, none in most; and to have, in substantial excess over any other agent tested, a two-hour duration of action. • These are the reasons we say: *Now, with price no longer a consideration, is the time to reconsider the whole question of antiseptic agents. Now is the time to re-examine the evidence, and to select the agent of proven superiority.* ABBOTT LABORATORIES, NORTH CHICAGO, ILLINOIS.

Tincture Metaphen
REG. U. S. PAT. OFF.

(Tincture of 4-nitro-anhydro-hydroxy-mercury-orthocresol, Abbott)

[1]*Meyer, E., and Arnold, L., 1938, Amer. Digest. Dis., 5:418.*

BOTTLES OF 1 FL. OZ., 4 FL. OZ., 1 PINT AND 1 GALLON